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WATER SUPPLY OUTLOOK FOR NEVADA



U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

**NEVADA DEPARTMENT of CONSERVATION
and NATURAL RESOURCES
DIVISION of WATER RESOURCES**

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed inside the back cover of this report.

AS OF
JAN. 1, 1976

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on a measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: SURVEYOR ENROUTE TO THE MT. BALDY ARIZONA SNOW COURSE
SCS PHOTO AZ-5460

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 111, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	204 E. 5th. Ave., Room 217, Anchorage, Alaska 99501
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bazeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1220 S.W. Third Ave., Portland, Oregon 97204
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



WATER SUPPLY OUTLOOK FOR NEVADA

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

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WATER SUPPLY OUTLOOK FOR NEVADA

SNOW SURVEYS TAKEN ON OR NEAR JANUARY 1, 1976, INDICATE A MINIMAL SNOWPACK ON THE EAST SLOPE OF THE SIERRA AND ALL OF NEVADA. SNOWPACK IN THE SIERRA RANGES FROM 14 PERCENT OF AVERAGE ON THE CARSON-WALKER DRAINAGES, TO 29 PERCENT IN THE TAHOE-TRUCKEE DRAINAGES. IN NORTHEASTERN NEVADA, THE OWYHEE HAS 55 PERCENT AND THE HUMBOLDT HAS 45 PERCENT OF AVERAGE.

RESERVOIR STORAGE IS ABOUT THE SAME AS OCTOBER 1 REPORTS. THE PRINCIPAL IRRIGATION RESERVOIRS IN THE STATE NOW CONTAIN 141 PERCENT OF AVERAGE FOR THIS DATE.

Mountain snowpack in the Sierra is much below normal, as evidenced by the lack of snow at the ski areas. Measurements taken at selected snow courses for January 1 indicate only 14 percent of average snowpack in the Carson-Walker drainages, to 29 percent in the Tahoe-Truckee drainages. Percentages relate to the 1958-72 period for the January 1 readings. Normally, there is 40 to 50 percent of the season's snowpack on the ground by January 1. This year there is only about 15 percent. Last year's January 1 snowpack was about 50 percent of average.

Snow conditions in northeastern Nevada are slightly better, ranging from 45 percent on the Humboldt to about 55 percent on the Owyhee. Snow courses on the Snake River indicate near average conditions.

Reservoir storage throughout the state is very good, with the major irrigation reservoirs containing 141 percent of the 1958-72 average. Most are above last year. The Truckee River has nearly 702,000 acre feet of storage in major reservoirs and Lake Tahoe. This compares to last year's 683,000 acre feet.

Lahontan Reservoir in the Carson River drainage contains 194,000 acre feet and 123 percent of average, the same as last year. Storage in the Walker River system is 66,000 acre feet, for 129 percent of average and 108 percent of last year's. Rye Patch Reservoir on the Humboldt has 142,000 acre feet (173 percent of average), compared to 96,000 acre feet last year.

It is too early to accurately predict the coming season's water supplies, but we will need above average snowfall the next three or four months to produce average streamflow. The reservoir storage now available will be needed to help meet irrigation demands next summer if below average snowfall occurs.



SNOW COURSE MEASUREMENTS

SNOW COURSE MEASUREMENTS		THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Elevation				Last Year	Average †
LAKE TAHOE-TRUCKEE RIVER						
Echo Peak		12/31	8	2.2	-	-
Echo Summit		12/29	15.7	4.0	-	-
Fallen Leaf		12/31	T	T	-	-
Free1 Bench		12/31	4	.9	1.4	6.3*
Glenbrook #2		12/30	3	.9	2.9	4.3*
Hagans Meadow		12/31	7	1.5	4.7	8.3*
Heavenly Valley		12/31	18	4.5	7.8	-
Independence Camp		1/1	9	1.6	3.1	-
Independence Creek		1/1	5	.7	1.3	-
Independence Lake		1/1	27	8.4	8.6	-
Marlette Lake		1/1	11	1.8	5.9	-
Mount Rose Ski Area		1/1	28	8.4	12.9	-
Richardsons #2		12/30	12	3.1	3.5	-
Sage Hen		1/1	7	1.3	1.9	-
Squaw Valley #2		12/31	33	8.6	9.3	-
Tahoe City		12/30	0	0.0	-	-
Tahoe City Alternate		12/30	0	0.0	-	-
Tahoe City Cross		12/30	0	0.0	5.0	-
Truckee #2		NS			-	-
Upper Truckee		12/31	5	.9	1.9	5.0*
Ward Creek #2		12/31	15	4.3	6.9	15.0*
Ward Creek #3		12/31	2.0	4.5	5.9	-
CARSON-WALKER RIVERS						
Ebbetts Pass AM		12/31	24	7.2	-	-
Ebbetts Pass #2		12/31	23	7	-	-
Poison Flat AM		12/29	0	0.0	3.8	-
Poison Flat #2		12/29	4	1.1		
Sonora Pass		12/29	7	1.6	6.7	9.5*
Virginia Lakes		12/29	3	.6	3.2	6.9*
Virginia Lakes Ridge		12/29	6	2.0	5.2	-
Wet Meadows Lake AM		12/31	9	2.0	6.7a	-
Wet Meadows Lake #2		12/31	17	3.8	-	-
SNAKE RIVER						
Bear Creek AM		Data Delayed			10.4a	7.8*
Goat Creek AM		12/29	26	7.2	9.8a	6.4*
Hummingbird Springs AM		Data Delayed			8.7a	7.6*
Merritt Mountain AM		12/26	12	3.0	-	-
Pole Creek Ranger Station		12/29	31	9.4	11.5	7.7*
Red Point AM		Data Delayed			2.8a	4.4*
76 Creek AM		12/26	12	3.0	5.9a	6.2*
Stag Mountain AM		12/26	12	3.0	-	-

SNOW COURSE MEASUREMENTS

DRAINAGE BASIN and/or SNOW COURSE NAME	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (inches)	Water Content (inches)	Last Year	Average +
<u>OWYHEE RIVER</u>					
Columbia Basin AM	12/26	12	3.0	-	-
Fawn Creek AM	12/26	12	3.0	-	-
Jack Creek, Upper AM	12/26	12	3.0	-	-
Taylor Canyon	12/29	4	1.0	2.6	1.8*
<u>UPPER AND LOWER HUMBOLDT RIVER</u>					
American Beauty AM	12/26	10	2.6	-	-
Corral Canyon AM	12/26	10	2.6	-	-
Fry Canyon	12/29	11	2.7	4.2	3.0
Midas AM	12/26	T	T	-	-
Robinson Lake AM	12/26	84	21.0	-	-
Tent Mountain #1 AM	NS				
Tent Mountain #2 AM	12/26	46	11.6	-	-
Toe Jam AM	12/26	12	3.0	-	-
Tremewan Ranch	12/29	T	T	0.4	0.8
Trout Creek, Upper AM	12/26	22	5.6	-	-

NS No Survey
T Trace

NOTE:
All averages based on 1958-72, 15 year period. Forecast period is April 1 through July 31 unless otherwise noted.
a-Aerial marker; water content estimated. * 1958-72 adjusted average.

RESERVOIR STORAGE (Thousand Acre Feet) as of January 1, 1976

Basin or Stream	RESERVOIR	Usable Capacity	Usable Storage		
			This Year	Last Year	Average†
Owyhee	Wild Horse	72	57	50	16
Lower Humboldt	Rye Patch	157	142	96	82
Colorado	Mohave	1,810	1,549	1,560	1,612
Colorado	Mead	26,159	20,086	19,721	17,429
Tahoe	Tahoe	732	519	464	394
Truckee	Boca	41	27	30	12
Truckee	Stampede	220	147	179	*
Truckee	Prosser***	30	9	10	8**
Carson	Lahontan	291	194	194	158
West Walker	Topaz	59	37	31	28
East Walker	Bridgeport	42	29	30	24
* Storage began August 1, 1969 ** Adjusted average *** Flood control use allocation of 20,000 ac. ft. between November 1 and April 10.					

TOTAL RESERVOIR STORAGE (Thousand Acre Feet)

MONTH	This Year	Last Year	Average †
October 1	1,037	961	718
January 1	1,005	900	714
February 1		936	782
March 1		1,040	843
April 1		1,134	893
May 1		1,117	934

† 1958-1972 period.

The above data developed from Wild Horse, Rye Patch, Tahoe, Boca, Lahontan, Topaz, and Bridgeport Reservoirs in 1,000 Acre-Feet.

TOTAL USABLE CAPACITY 1,394

PEAK FLOWS (MAXIMUM MEAN DAILY) (Av. flow for 24 hrs. on day of greatest flow)

FORECAST POINT	PEAK FLOW (SECOND FEET)	
	Forecast Range	Average +
Peak flow forecasts not issued until March 1, 1976.		

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Low flow forecast not issued until March 1, 1976.			

SOIL MOISTURE MEASUREMENTS

STATION	Profile (Inches)		Soil Moisture (Inches)		
	Depth	Capacity	Date	This Year	Average +
<u>TAHOE-TRUCKEE BASIN</u>					
Independence Camp	34	6.1	1/1/76	2.4	3.6*
Marlette Lake	50	3.7		NS**	2.0*
<u>WALKER BASIN</u>					
Sonora Pass	48	8.3		NS**	6.7*
Virginia Lakes Ridge	40	5.0		NS**	2.0*
** No Survey					

Agencies Cooperating in Collecting Data Contained in this Bulletin

FEDERAL

- Agricultural Research Service
- Bureau of Reclamation
- Fish and Wildlife Service
- Forest Service
- Geological Survey
- Navy
- Soil Conservation Service
- U. S. District Court - Federal Water Master
- NOAA, National Weather Service

STATE

- California Cooperative Snow Surveys
- California Department of Parks and Recreation
- California Department of Water Resources
- Colorado River Commission of Nevada
- Idaho Cooperative Snow Surveys
- Nevada Association of Conservation Districts
- Nevada Department of Conservation & Natural Resources
 - Division of Water Resources
 - Nevada State Forester
- Oregon Cooperative Snow Surveys
- Utah Cooperative Snow Surveys
- White Mountain Research Station, Univ. of California

PRIVATE

- Amalgamated Sugar Company
- Kennecott Copper Corporation
- Nevada Irrigation District
- Owyhee Project North Board of Control
- Owyhee Project South Board of Control
- Pacific Gas and Electric Company
- Pershing County Water Conservation District
- Sierra Pacific Power Company
- Truckee-Carson Irrigation District
- Walker River Irrigation District
- Washoe County Water Conservancy District

Other organizations and individuals furnish valuable information for the snow survey reports. Their Cooperation is gratefully acknowledged.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

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